

TRAINING MODULE FOR GERIATRIC HEALTH CARE

Six intensive days in two phases with a total of 72 Hours Training in
Integrated Promotive, Preventive and Therapeutic Geriatrics
focusing on strength of Ayurveda



सत्यमेव जयते

DEPARTMENT OF AYUSH
MINISTRY OF HEALTH & FAMILY WELFARE
GOVERNMENT OF INDIA
NEW DELHI

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(Jara Swasthya Prabandhan)

COMMUNITY HEALTH C

**Six Intensive Days in two phases with a Total of 72 Hours Training in
Integrated Promotive, Preventive and Therapeutic Geriatrics
focusing on Strength of Ayurveda**

Module – I Perspectives, Promotive and Preventive Care

Module – II Therapeutic Care of the elderly

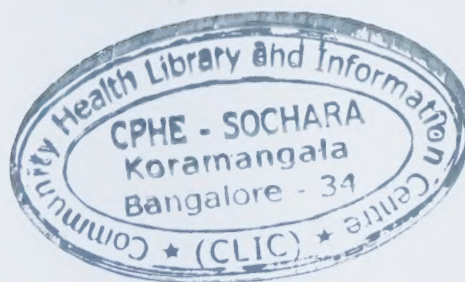


DEPARTMENT OF AYUSH
Ministry of Health & Family Welfare
Government of India
Indian Red Cross Society Building
New Delhi – 110001
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Homeopathy (AYUSH), New Delhi
&
Central Council for Research in Ayurveda and Siddha (CCRAS),
New Delhi



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Prof. G. P. Dubey	Member
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PREFACE

With improvements in nutrition, sanitation and control of infection diseases there has been a sharp increase in life expectancy all over the world including developing countries like India. It is important that people not only live longer but also enjoy a healthier life. Rasayana - Science of Rejuvenation is one of the eight specialized branches of Ayurveda. Keeping this in view, the Department of AYUSH, Ministry of Health & Family Welfare decided to launch a National Campaign on Geriatric Health Care through Ayurveda & Siddha by a National Workshop on January 23-24, 2008 at New Delhi. Subsequently, State campaigns have also been held in some States. Further, Department of AYUSH has sanctioned a large number of Re-orientation specifically on Geriatric Care.

A need was felt for well designed module and training manual for Geriatric Care. I place on record my sincere thanks to Prof. R.H. Singh, Professor Emeritus, Banaras Hindu University and his team of experts of Banaras Hindu University who have prepared the training module for Geriatric Health Care and are in the process of preparing the detailed manual. I also place on records my sincere thanks to Dr. S.K. Sharma, Adviser (Ayurveda), Department of AYUSH for coordinating this work. I hope that this training module will be very handy to organizers of RoTP and CME Programmes in Geriatric Health Care as well as Ayurveda Colleges all over the country who should incorporate this training module in their UG and PG Courses.

14th July 2008.

New Delhi

Anita Das

(Anita Das)

PREAMBLE

With the declining birth rate and reduced rate of death in early age groups, the recent years have shown significant increase in the number of elderly in the population world over. The developed countries like US and Japan are already in the grip of high rate of population-aging which has started displaying significant negative impact on socio-economic and health-care planning of the present day society. The developing countries like China and India have also now started showing similar trends. Most demographers all over the world believe that population-aging is going to remain the most significant demographic trend of the 21st century, which will influence a wide range of public issues of our times.

The increasing number of the elderly in the population warrants development of newer health care strategies for this growing section of the population. It can not be over emphasized that the coming decades will encounter larger number of victims of the age related diseases like degenerative neuropathies, locomotor disabilities, geriatric urinary disorders, cardiovascular diseases, diabetes mellitus and cancers. Hence there is a need of launching geriatric health care services at all levels.

It is believed that *Ayurveda*, *Siddha*, *Yoga* and Naturopathy have real strength in this kind of health care. *Ayurveda* being essentially the science of life and longevity, puts special emphasis on geriatric care and devotes one of its eight specialty branches, named *Rasayana Tantra* entirely to longevity specially its nutritional, immunological and neuro- protective aspects. Considering the obvious strength of *Ayurveda* in this area and its safe, pronature, cost-effective potential the Govt. of India has recently launched a campaign to promote integrative geriatric healthcare through *Ayurveda* at national level. This campaign was inaugurated on Jan.23, 2008 by Union State Health Minister in New Delhi, before a gathering of the public and professionals from all over the country. The Govt. has also set up a task force for follow up action.

As geriatric health care is still not a very well organized discipline in India, it was rightly thought to organize short term training and reorientation programs for practitioners firstly at institutional level and later also at district and PHC levels. The Department of AYUSH appointed a working group under the chairmanship of the undersigned to develop a training module and a manual on geriatric health care focusing on *Ayurveda*, vide its letter F.no.v-27020/43/2007-Ay Dated April, 4, 2008.

After several rounds of meetings and intensive discussions the working group has developed a training module for this purpose and is working on compilation of a manual. The module covers a comprehensive range of topics, both promotive and curative to expose the doctors to basics of geriatric health care and management of diseases of the old age. Making this program participation-friendly it was decided to limit this training / orientation program to

six intensive days of a total of 36 hours. The specific topics identified essential for the purpose of training have been casted in a brief module shape which is being presented in this publication as a guideline for national training program. The details will follow in the manual.

It is suggested that at the out set the Department of *AYUSH* may identify 6-10 regional geriatric training centers in the country preferably in good *Ayurvedic* colleges specially where facilities and expertise of modern medicine are also available, as their own constituent component or as available for ready collaboration. It can not be over emphasized that this training program will have to be conducted on integrated pattern with emphasis on practical work without undue theoretical and conceptual learning-load on the trainees.

Prof. Ram Harsh Singh
Professor Emeritus, BHU
Chairman Working Group

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Unit	Subject	Teaching Hours	Page No.
Module – I Perspectives, Promotive and Preventive Care			
1.	Current issues in geriatric health care	03 hours	03
2.	Basic tenets of Ayurveda and Ayurvedic geriatrics	03 hours	05
3.	Geriatric nutrition (<i>Jara-avastha poshana</i>)	02 hours	07
4.	<i>Rasayana</i> therapy and rejuvenation	02 hours	09
5.	Panchakarma in Geriatric care	04 hours	11
6.	Mental health care in the elderly (<i>Manas swasthya</i>)	03 hours	13
7.	Geriatric counseling and social support	02 hours	15
8.	Referral requirement and clinical judgement in geriatric practice	03 hours	16
	Pre and Post training assessment	1+1 hour	
	Opening and closing sessions	1½ +1½ hours	
	Total hours	27 hours	
Module – II Therapeutic Care of Elderly			
9.	Neurodegenerative diseases in the elderly	03 hours	21
10.	Neuropsychiatric disorders (<i>Jara Janya Mano Vikar</i>)	03 hours	23
11.	Cardiovascular disorders in the elderly	04 hours	25
12.	Endocrine & Metabolic disorders in the elderly	03 hours	27
13.	Diabetes mellitus vis-a-vis <i>Madhumeha</i> in the elderly	03 hours	30

14.	Respiratory diseases in the elderly	02 hours	33
15.	Gastro-Intestinal diseases of the old age and their care (<i>Agni Evam Mahastrotas Vikara in Jara-Avastha</i>)	03 hours	35
16.	Musculoskeletal Diseases in the Elderly	03 hours	37
17.	Urinary diseases and other surgical problems of the elderly	03 hours	39
18.	Ano-Rectal disorders of elderly	02 hours	41
19.	Wound management in the elderly	02 hours	43
20.	Adjuvant therapy for cancer	02 hours	45
21.	Sense organ diseases of the old age Eyes, Ears and Skin (<i>Panchendriya Vikar</i>)	04 hours	47
22.	Geriatric women health care	03 hours	50
	Pre and Post training assessment	1+1 hour	
	Opening and closing sessions	1½ +1½ hours	
	Total hours :	45 hours	
	Grand total hours :	72 hours	

Module I

Perspectives, Promotive and Preventive Care

Current Issues in Geriatric Health Care

Unit	Subject	Course contents
1	Definition of elderly	Definition of elderly age, physiological aspects of aging, mechanism of aging, metabolic changes in the elderly, assumption and prejudices concerning the psychology of the aged, changes in mental ability in old age, personality changes in old age, pattern of age changes.
2	Demography of elderly	Prevalence of elderly population in Indian and global scenario, mortality and morbidity, Prevalence of disease conditions in elderly.
3	Illness profile in elderly	Definition of chronic illness,, special hazards of illness in the elderly, epidemiology of chronic illness, identification of reversible diseases, clinical uncertainty, altered presentation of illness.
4	Why elderly differs from adults	Anatomical changes, physiological changes, pharmacology in elderly, social/psychological changes.
5	Disease profile in elderly	Diseases more common in elderly, diseases only present in elderly.
6	Management of diseases in elderly	Diagnosis problems, treatment goals, treatment problems.
7	Rehabilitation in elderly	Multiple disability of the aged, goals of rehabilitation, risks of rehabilitation, institutional vs home service, modalities of physical medicine.
8	Prevention of diseases in elderly	Screening for common diseases for early detection – diabetes, hypertension, osteoporosis, osteopenia, senile dementia and cancers in elderly, Immunization in elderly.

9	Promotion of health in elderly	Exercise/physical activity, Yoga, social/psychological support system, diet/nutrition.
10	<i>Rasayana</i> and Rejuvenation therapy of Ayurveda	To evaluate and popularize the strength of Ayurveda in geriatric health care specially its <i>Rasayana</i> therapy and prescribed life-style i.e. <i>Swasthavritta</i>

Basic Tenets of Ayurveda and Ayurvedic Geriatrics

Unit	Subject	Course contents
1	Introduction	What is Ayurveda and how it is unique from other systems of medicine. The upsurge of interest in Ayurveda, the domestic and global scenario of the interest in view of its eco-friendly, cost effective and toxicity-free nature due to its holistic approach. The available infrastructure, WHO policies etc.
2	The historicity	The historicity of Ayurveda and its Vedic linkages. The timings and contents of <i>Brihattrayi</i> and <i>Laghatrayi</i> texts. Ayurvedic Knowledge in Non-Ayurvedic texts and in folklore claims.
3	The Basic Tenets	The four-dimensional concept of <i>Ayu</i> including the concept of <i>Hitayu-Ahitayu</i> , <i>Sukhayu-Dukhayu</i> , <i>Niyata Ayu</i> , <i>Aniyata Ay.</i> . The Theory of <i>Loka Purusa-samya</i> and <i>Swabhavoparama Vada</i> . The doctrine of <i>Samanya</i> and <i>Visesa</i> i.e. Homology vs. heterology.
4	Concept of Health and ill health	Ayurveda, the science of life and longevity. Definition of <i>Swasthya</i> and <i>Moksa</i> . Theory of <i>Triguna</i> , <i>Panca Mahabhuta</i> and <i>Tridosas</i> .
5	Ayurvedic Physiology	<i>Tridosas</i> , <i>Triguna</i> , <i>Sapta-Dhatus</i> , <i>Ojas</i> , <i>Oja bala</i> and <i>Oja dosa</i> <i>Agni</i> and <i>Agni bala</i> , <i>Ama</i> , <i>Srotas</i>
6	Causes of Disease	The <i>Karmaja</i> and <i>Apathyaja</i> diseases, <i>Loka Purusa Vaisamya</i> , Errors of <i>Kala</i> . <i>Buddhi</i> and <i>Indriyarth</i> . The <i>Satkriyakala</i> .
7	Ayurvedic Diagnosis	<i>Rogi-Roga Pariksa</i> with special reference to <i>Prakriti</i> , <i>Nadi Pariksa</i> and <i>Sadanga SrotasaPariksa</i> .

8	Principles of Treatment	<i>Samsodhan, Samsaman, Nidana Parivarjana.</i> Introduction to Panchakarma. Ayurvedic dietetics and <i>Pathyapathya</i> .
9	Ayurvedic Materia Medica	Materia Medica and Ayurvedic Pharmacy, Herbal and Mineral resource. Ayurvedic Pharmacodynamics and Ayurvedic Pharmacy.
10	Ayurvedic Geriatrics	Concept of Aging in Ayurveda. <i>Rasayana Tantra, Kayakalpa</i> and Rejuvenation therapy. Care of the diseases of elderly in Ayurveda. The scope of integration.

Geriatric Nutrition (*Jara-avastha Poshana*)

Unit	Subject	Course contents
1	Jara-avastha as defined in Ayurveda	Theory of Jara-avastha, age of beginning of Jara-avastha, Is Jara-avastha a natural phenomena? Visible changes in Jara-avastha. Dhatukshaya in Jara-avastha
2	Status of Agni in Jara-avastha and its impact on health and disease	Basic concept of Agni in Ayurveda, theory of Jatharagni, Dhatvagni and Panchbhutagni, Jatharagni and its four kinds- sama, vishama, tikshna and manda in Jara-avastha. State of samagni in health and, vishama, tikshna and manda during disorders in elderly person. Role of Manasikabhava in AgniVaishamya causing formation of 'Ama', the root cause of disease (Charak-Vimansasthana 2/8)
3	Role of Chinta (anxiety), Soka (grief) and Ahara in acceleration of Jara-avastha	Causes of anxiety and grief in Jara-avastha and its effect on promotion of early onset of aging. Dietary substances responsible to bring early Jara-avastha. Management of above stated facts to overcome early aging.
4	Dhatuposhana in Ayurveda and maintenance of health in Jara-avastha	Concept of Saptadhatu in Ayurveda their locations in the body, discussion on Rasa-Rakta-Mamsa-Meda-Asthi-Majja and Sukra Dhatu, physiological parameters to assess the Saptadhatus. Physicochemical nature of Saptadhatus, Concept of Dhatusara and Samhanana
5	Ahara and Ahara vidhi	Concept of Ashta Ahara vidhi viseshayatana, Dwadasa Asana vichar, Viruddhahar, planning a balanced diet for elderly persons of different work groups.
6	Saptadhatu sara- Ojas, which is known as Bala	Concept of Ojas in Ayurveda, Definition of Ojas as Bala (strength), the normal function of Bala

	(strength)	(Ojas). Jivaniya Mahakasaya as life sustaining and its use to improve Ojas. Manasikabhava & Ojas (Psychoneuro immunology)
7	Dietary substances administered as Dhatuposana	Substances of plant origin described for Dhatuporsana i.e. Jivantisaka, Punarnava saka, Balapatra saka, Satavari ankura, Shringataka kanda, Varahikanda, Kharjura, Akshota, Vatada, Mrdvika etc. Suitable dietary nutritive forms - i.e. Bhakshya, Bhoja, Lehaya and Chusya for easy administration. Nutritive value of cow's milk and ghee that's why used as vehicle to carry therapeutic effect of drugs at suitable level.
8	Drug substances of plant origin used as nutrition.	Concept of Balya and Vayah Sthapana Mahakasaya and uses of drugs described therein them to improve the essences of Saptadhatus-Ojas (Bala).
9	Rasayana Drugs and Nutrition	Concept of Rasayana in Ayurveda, Compound drugs of plant origin, Herb(s)-minerals and classical preparations of Ayurveda to improve nutrition in Jara-avastha.
10	Identification of plant drug substances for nutrition Practical demonstration	Nomenclature based identification of plant drugs, macroscopic and microscopic identification of genuine useful parts, knowledge of names i.e. botanical, trade, local, regional etc.

Rasayana Therapy and Rejuvenation

Unit	Subject	Course contents
1	Introduction	<i>Ashtanga</i> Ayurveda and the <i>Rasayana Tantra</i> . Definition and scope of <i>Rasayana</i> in promotion of longevity and care of ailments of the old age. Concept of “ <i>Purve vayasi madhye va</i> ”. <i>Rasayana</i> is to be administered at early age to get its optimum effect.
2	Mode of action of <i>Rasayana</i>	The three-tier action of <i>Rasayana</i> remedies promoting - 1. <i>Rasa</i> or direct nutrient effect, 2. <i>Agni</i> or digestion and metabolism, 3. <i>Srotas</i> i.e. microchannels or inner transport system of the body, micro circulation and tissue perfusion leading to formation of best quality <i>Dhatus</i> i.e bodily tissues, leading in turn to longevity, immunity and improved mental faculties.
3	Classification of <i>Rasayana</i>	<i>Kamya Rasayana</i> , <i>Naimittika Rasayana</i> , <i>Vatatapika Rasayana</i> , <i>Kuti-Pravesika Rasayana</i> , <i>Achara Rasayana</i> , <i>Ajasrika Rasayana</i> .
4	Specific <i>Rasayanas</i>	Age-specified <i>Rasayana</i> , organ and tissue specific <i>Rasayana</i> , disease specific <i>Rasayana</i> .
5	<i>Rasayana</i> as a molecular nutrient and nutraceutical	By virtue of the impact of <i>Rasayana</i> remedies on <i>Rasa</i> , <i>Agni</i> and <i>Srotas</i> system, the overall nutritional status improves specially at vital and molecular levels. All <i>Rasayanas</i> are vital nutraceuticals and antioxidants. Recent researches on ghee (cow's ghee) in improving good cholesterol and decreasing bad cholesterol specially <i>Purana</i> ghee, its anti-oxidant effect etc.

6	Antiaging and immuno-enhancing effect of <i>Rasayana</i>	The hallmark of <i>Rasayana</i> effect is longevity and immuno-enhancing.
7	The Neuro-protective <i>Medhya Rasayana</i>	<i>Medhya Rasayana</i> and <i>Medhya</i> drugs like <i>Brahmi</i> , <i>Mandukaparni</i> , <i>Jyotismati</i> , <i>Guduchi</i> , <i>Madhuyasti</i> , <i>Asvagandha</i> and several such other drugs have potential to promote neuro-nutrition and neuritic regeneration which may be of help in prevention and care of neurodegenerative diseases which are the hallmark of aging process.
8	Pre-requisites of <i>Rasayana</i> therapy	<ol style="list-style-type: none"> 1. Preparatory <i>Panchakarma</i>. 2. Selection of <i>Rasayanas</i> in relation to Age, <i>Atura Prakriti</i>, Climate, Season, Adaptability, disease state etc. 3. Adjunct of <i>Acara</i> and <i>Ajasrika Rasayana</i> with <i>Rasayana</i> drugs.
9	Prominent single and compound <i>Rasayanas</i>	<ol style="list-style-type: none"> 1. <i>Amalaki</i>, <i>Haritaki</i>, <i>Ashwagandha</i>, <i>Amrita</i>, <i>Yasti Madhu</i>. 2. <i>Jivaniya Mahakasaya</i>, <i>Balya</i> and <i>Vayah Sthapana Mahakasaya</i> 3. <i>Chyavanaprasha</i>, <i>Brhama Rasayana</i>, <i>Amalaka Rasayana</i>, <i>Amrit Bhallataka</i>, <i>Pippali</i> and <i>Ritu Haritaki</i>.
10	Integration	<i>Rasayana</i> therapy of Ayurveda is the principal matrix of positive health care and has all potential to strengthen the mainstream geriatric care.

Panchakarma in Geriatric Care

Unit	Subject	Course contents
1	Senile Body constitution, anatomico-physiological status of the body with reference to geriatric Panchakarma	Aging process and senile degeneration, Elderly anatomical and psychological changes in cardiovascular system, respiratory system, gastrointestinal system, nervous system, loco motor system, urogenital systems and immunological status in the elderly.
2	Status of <i>Prakriti</i>, <i>Agni</i>, <i>Dosha</i>, <i>Dhatu</i>, <i>Mala</i> and concept of <i>Ojas</i> with reference to Panchakarma for geriatric care	Concept of <i>Deha</i> and <i>Manas_prakriti</i> and problems of determination of <i>prakriti</i> in elderly people, Status of <i>Agni</i> , <i>Dosha</i> , <i>Dhatu</i> , <i>Mala</i> and <i>Ojas</i> in elderly people
3	Geriatric patient examination, Diseases specific to elderly treatable by Panchakarma	Geriatric patient examination and diagnosis of diseases specific to elderly people treatable by Panchakarma viz. chronic rheumatism, neurodegenerative diseases etc.
4	Diagnostic problems and measures to be adopted for diagnosis in geriatric people with reference to application of panchakarma	Age-specified <i>Rasayana</i> , organ and tissue specific <i>Rasayana</i> , disease specific <i>Rasayana</i> .
5	Available treatment modalities and supplementation by Panchakarma	Present Treatment modalities and their limitations, Ayurvedic therapies and their merits, use of <i>Sanshamana</i> and <i>Sanshodhana Chikitsa</i> including Panchakarma in geriatric care
6	Panchakarma procedures to be adopted for Geriatric care	Panchakarma procedures -Vaman, Virechana, Nasya, Vasti, Raktavishravana, Shirodhara, Shirobasti, Katibasti etc. their use and limitations in

	(Preventive as well as Therapeutic)	elderly people, modifications, indications and contraindications of panchakarma therapy in geriatric care for prevention and treatment of diseases
7	Precautions, Complications and limitation of procedures	Precautions, complications and limitations of Panchakarma procedures in the elderly.
8	Demonstrations	Demonstration of Geriatric Panchakarma procedures viz. <i>Abhyanga, Swedana, Pinda Sweda, Kayaseka, Vasti Karma, Shirodhara, Shirovasti, Kativasti, Januvasti</i> etc

Mental Health Care in the Elderly (*Manasa Swasthya*)

Unit	Subject	Course contents
1	Introduction to mental health	Definition of health, mental health and its importance, role of adjustment in mental health.
2	Models of mental health	Medical model – Normalcy as health Statistical model – Normalcy as an average Utopean model - Normalcy as Utopia Subjective model – Normalcy as absence of subjective distress Social model – Socially acceptable behaviour Process Model - Normalcy as process Continuum model – Normalcy as continuum Mental Health vs. Mental Illness
3	Factors affecting mental health	Physical factors : Satisfaction of basic needs, hereditary factors and <i>satva bala</i> , social factors viz. home, school, community, Aspects of mental health: Individual, Social.
4	Characteristics of a mentally healthy individual	Self evaluation (<i>Sameekshyakari</i>), adjustability (<i>Samah</i>), maturity (<i>Visada cha Buddhi</i>), regular life (<i>Charya Palana</i>), absence of extremism (<i>Madhyam Margi</i>), satisfactory social adjustment (<i>Visayeshvasaktah</i>), satisfactions from the main of occupation / profession (<i>Karma Sukhanubandhi</i>), expression of emotion in a desirable and controlled manner (<i>Kshamavan</i>) .
5	Mental health in elderly	Reality orientation, self awareness and self knowledge, self esteem and self acceptance, ability to exercise voluntary control over behaviour, ability to form affectionate relationship, pursuance of productive and goal directed activity.
6	Mental Hygiene and Mental health	Definition of mental hygiene, relationship between mental hygiene, mental health, significance of mental

		hygiene, Objectives of mental hygiene: Development of a properly adjusted and balanced personality, prevention of personality complications, safeguard of mental health, treatment and remedying of mental defects.
7	Importance of mental health care in elderly	Necessity and importance of mental health care in elderly, Psychological and psychosocial problems in elderly, age related challenges to mental health, Specific significance of mental health care in elderly.
8	Specific methods of mental health care in the elderly	Methods of right conduct : (<i>Manasika Sadvritta</i>) and their role in promotion of mental health, understanding and practice of tools of behavioral rejuvenation, understanding and practice of yogic methods. (<i>Tatparata cha yoge</i>), spiritual therapy, general advices for the elderly.
9	Some procedures of <i>Sadvritta</i> and <i>Yoga</i>	Rules of social conduct, rules of personal conduct, physical posture, right orientation of physical body, right use of vital energy – Breath control, control of mind and senses, concentration - control of attention, meditation right reflection, absorption – right union.
10	Spiritual therapy and <i>Satvavajaya</i>	Spiritual therapy : devotion and its importance, surrender to the will of God, developing compassion, Prayer and Mantra, Developing self knowledge, rituals, general advices for elderly.

Geriatric Counseling and Social Support

Unit	Subject	Course contents
1	Introduction	Introduction to the counseling and social support system as relevant to old age; Indian and global scenario.
2	Counseling	What is counseling? meaning of counseling objectives of counseling, types of counseling, approaches of counseling, counseling process, steps of counseling process, characteristics of the client, characteristics of the counselor, adjustment and mal-adjustment traits in personality, analysis of adjustment and mal-adjustment traits in personality, counseling as solution for adjustment and mal-adjustment traits in personality. counseling as Hygiology, counseling as solution to maintain human relationship.
3	Social Support and Social Adjustment	What are social support and social adjustment? Why are social support and social adjustment? Family support for elderly in joint family and in nuclear family, utilization of services of elderly people for family- in joint family, in nuclear family, social support for elderly, scope and utilization of services of elderly people for society, methods of social utilization of elderly people such as re-employment, advisors, consulting subject experts, counselors; scope of services of elderly people in the management of old age care centres, recommended strategies, recreation of elderly people, occupational supports for elderly people, familial support for elderly women, social support for elderly women

Referral Requirement and Clinical Judgment in Geriatric Practice

Unit	Subject	Course contents
1	Introduction	Ordinarily all clients above 65 years of age will have to be registered in geriatric service center for total care. Some of the patients will need referral for specialized medical and surgical care for their associated major disorders, timely judgment is crucial. Availability of referral services.
2	Referral need and timely clinical judgment. Mutual referral arrangement	The managing geriatrician will keep close watch on degree and progression of associated major disorder and shall take timely judgment for referral services in other specialized units for investigative and therapeutic purpose. Mutual referral understanding and arrangement is crucial.
3	Therapeutic nutrition	Specialized opinions and planning may be required in some elderly patients in view of their associated major illness warranting referral.
4	Musculoskeletal, Trauma and orthopedic care	The elderly with gross deformities and situations warranting surgical interventions and physical medicine aids, Elderly with acute trauma or chronic major orthopedic ailments like major deformities, malignancies, bone and joint tuberculosis, joint destruction requiring joint replacement and other surgical interventions.
5	Endocrine and metabolic disorders viz complicated diabetes, etc.	The elderly clients with major endocrine and metabolic disorders like diabetes mellitus, hyper and hypothyroidism etc may need investigative and strategic care referral viz. drug failure in diabetics, diabetic complications and thyroid crisis.
6	Neurology, neurosurgery for special investigation	Advanced neurodegenerative disorders like Parkinson's disease and severe Dementia, Traumatic

	and management strategies	and Neoplastic diseases, Encephalopathies, Meningitis and CVAs for special investigation and management strategies.
7	Psychiatric consultations	The elderly person associated with major psychiatric diseases may need referral for diagnostic purpose and for planning of therapeutic strategies and joint follow ups.
8	Cardiovascular diseases	The elderly patients with severe hypertension, unstable angina and impending MIs are to be referred to specialists timely for coronary care and for special investigations.
9	Chest and tuberculosis	Clients with major respiratory diseases like chronic Asthma and COPD, active Tuberculosis and Cancer will need referral for investigative purposes and for planning of management strategies.
10	Gastroenterology	The elderly patients with GI hemorrhage, Acute abdominal pain, Intestinal obstruction, perforation etc may need referral for diagnostic and investigative purpose as well as for guidelines of management strategies.
11	Urology/ Nephrology	The elderly patients under geriatric care frequently need referral to urology services for obstructive Uropathy and Uro-genital malignancies and to Nephro services for the management of acute and chronic renal failure including renal transplantation.
12	Other surgical ailments	A number of the elderly registered for geriatric care may have associated surgical diseases already existing or having occurred de novo, will require urgent referral. Most frequent referrals will have to be sought from oncology surgery specialists.
13	Joint follow-ups	Most of the geriatric patients referred to specialists will have to be follow-ups jointly.

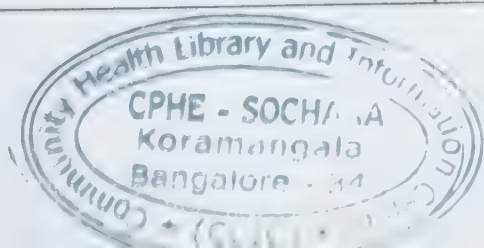
Module II

Therapeutic Care of the Elderly



Neurodegenerative diseases in the Elderly

Unit	Subject	Course contents
1	Definition of elderly	Epidemiology and demographic trends in senile neurodegenerative diseases, globally and nationally. Assessment of the gravity of the problem.
2	Anatomical and Physiological considerations	Main structural and functional age-related changes occurring in brain and nervous system.
3	Preventive strategies	Measures to retard senile neurodegeneration viz. positive life style, nutrition and mental as well as physical activity, practice of yoga etc.
4	Common Age - related neurodegenerative diseases	Clinical Features, diagnostics and therapeutic modalities for treatment of common senile degenerative diseases viz. Senile dementia, Alzheimers disease, Parkinson's disease, anxiety disorders and depression
5	Constitutional factors	<i>Prakriti (Sarira & manas)</i> as related to neurodegeneration
6	Causes of pronounced neurodegeneration	Physiological and degenerative toxic and metabolic factors, free radical oxidative injury, air, water and food pollution, lack of mental, physical activity, chronic diseases like hypertension, IHD, diabetes, CVA, cerebrovascular deficits.
7	Diagnostics	Methods of diagnosis and assessment of neurodegenerative conditions - structural and functional, angiological, cognitive and psychometric.
8	Therapeutic Modalities	Exercise, yoga and meditation, psychosocial support, nutritional care <i>Medhya Rasayana</i> therapy viz. <i>Brahmi, Mandukparni, Aswagandha, Jyotishmati, Kushmanda</i> etc.



9	Rehabilitation and occupational therapy	To be planned individually in each case
10	Life long follow-up	Follow up for geriatric health and age related ailments life long.

Neuropsychiatric Disorders (*Jara Janya Mano Vikar*)

Unit	Subject	Course contents
1	Introduction and Demography of Neuro-psychiatric Disorders in Elderly	Prevalence data for neuro-psychiatric disorders among elderly population conservative estimation, psycho-geriatrics as an area of specialization in geriatrics.
2	Common stressors in elderly	Description of common stressors precipitating psychiatric illness in elderly.
3	Common neuro-psychiatric disorders of elderly.	<i>Chittavasada</i> (depressive disorder), <i>Smriti-Buddhi hrasa</i> (Dementias and Alzheimers dementia), <i>Unmada esp. vatik type</i> (Schizophrenia / Paranoid), <i>Atatvabhinivesa</i> (Delusional disorder), <i>Chittodvega</i> (Anxiety disorder), <i>Manas Prakriti Vikar</i> (Personality disorder), <i>Nidra vikar</i> (Sleep disorder), <i>Madatyaya</i> (Alcohol / drug abuse).
4	<i>Chittavasada</i> (Geriatric depression)	Prevalence in elderly, geriatric depression as heterogeneous condition, etiology and clinical picture of depression in elderly, differential diagnosis.
5	<i>Smriti-Buddhi hrasa</i> (Dementia)	Prevalence in elderly, geriatric dementia as heterogeneous condition, etiology and clinical picture of dementia in elderly, differential diagnosis with special reference to Dementia of Alzheimer's type (DAT).
6	<i>Vatik unmad and Atatvabhinivesa</i> (Schizophrenia and delusional disorders)	Prevalence in elderly, geriatric schizophrenia and delusional disorders, their etiology and clinical picture of schizophrenia and delusional disorders in elderly, differential diagnosis.
7	Miscellaneous disorders	<i>Chittodvega</i> (Anxiety disorder), <i>Manas Prakriti Vikar</i> (Personality disorders), <i>Nidra Vikar</i> (Sleep disorders), <i>Madatyaya</i> (Alcohol/Drug Abuse) their

		etiology and clinical picture in elderly, differential diagnosis.
8	Principles of treatment :	Preventive treatment (<i>Nidan Parivarjana</i>), curative treatment, <i>Yukti vyapasraya</i> (rational therapy), Panchakarma, medicinal treatment, Other measures viz. <i>upayabhipluta</i> , <i>Sattvavajaya Chikitsa</i> (psychotherapy), supportive psychotherapy / assurance, replacement of emotions, psycho shock therapy, <i>Daiva vyapasraya, chikitsa</i> (spiritual therapy), spiritual treatment, occult treatment.
9	Management : Panchakarma Procedures	<i>Kaphaja - Vaman, Pittaja - Virechana, Vataja – Vasti</i> (Both), Panchakarma procedures for e.g. <i>vasti</i> therapy, <i>sirovasti</i> therapy, <i>pindasveda</i> therapy and <i>sirovirechana</i> therapy, <i>nasya</i> , <i>teevra anjana</i> and <i>nasya</i> , <i>bahya parimarjan</i> , <i>snehana</i> , <i>abhyanga</i> , <i>swedana</i> , <i>pralepa</i> , <i>udvartana</i> , <i>udgharshana</i> etc.
10	Management : Pharmacotherapy and Psychotherapy	<i>Ghrilas</i> have a special place in management of <i>manas Roga</i> . <i>Hingwadi Ghrita</i> , <i>Kalyanak Ghrita</i> , <i>Mahakalyanka Ghrita</i> , <i>Mahapaishachika Ghrita</i> , <i>Lasunadya Ghrita</i> , <i>Purana (10 Yrs.) Ghrita</i> , <i>Pra-Purana Ghrita</i> , <i>Susruta – Alpachaitasa Ghrita</i> , <i>Siva Ghrita</i> , <i>Brahmi Ghrita</i> , <i>Phala Ghrita</i> , Single drugs: <i>Kooshamanda Beej</i> , <i>Vacha</i> , <i>Aswagandha</i> , <i>Jatamansi</i> , <i>Sankhapushpi</i> , compound formulations: <i>Smriti Sagar Rasa</i> , <i>Chaturbhuj Rasa</i> , <i>Chaturmukha Rasa</i> , <i>Unmada Gajkesari Rasa</i> , <i>Medhya Rasayana</i> therapy and use of Nootropics.

Cardiovascular Disorders in the Elderly

Unit	Subject	Course contents
1	Concept of Geriatric Cardiology	Why Geriatric Cardiology? How the heart grows old? Factors responsible for heart aging ,geriatric age group in relation to CVD, Ayurvedic consideration of heart aging, concerns of <i>Hridroga</i> in elderly, incidence of various cardio-vascular disorders in the elderly specially in Indian population and regional variation
2	Anatomical and Physiological considerations	Anatomical changes in heart and blood vessels of elderly, physiological changes in heart and blood vessels of elderly, <i>Tridosa</i> and <i>Ojas</i> activity at the level of heart, aging preventive role of <i>Ojas</i> , functional variation in the activity of <i>Dhatu</i> and <i>Mala</i> in the elderly
3	Cardio-vascular Disorders, (Etiopathological variations in elderly)	Historical background of <i>Hridroga</i> in Ayurveda, risk factors for developing <i>Dhamni Kathinya</i> , heart disease and heart attack?, <i>Samanya Nidan</i> and <i>Visishtha Nidan</i> of <i>Hridroga</i> , Types of <i>Hridroga</i> , <i>Samprapti</i> (etiopathogenesis) of <i>Hridroga</i> , Etiopathogenesis of CVD, How coronary arteries get blocked? types of cardio-vascular disorders more common in the elderly
4	Clinical Presentation of <i>Hridrog</i> (CVD)	What is a heart attack?, Warning signs of heart attack in elderly, <i>Samanya Lakshan</i> and <i>Visishtha Lakshan</i> of <i>Hridroga</i> , Presenting symptoms and signs of myocardial infarction & myocardial ischemia, angina and its variants in the elderly , Isolated Systolic Hypertension in old age and presenting symptoms, Orthostatic hypotension, heart block, heart failure and features of silent heart attack in elderly, Aortic Stenosis, Atrial fibrillation, hypertension in the elderly.

5	Potential Risk Factors for CVD	Fixed and modifiable risk factors. Elderly age as risk for CVD?, High risk subjects
6	Reversal of Heart diseases	Reversal of coronary artery disease, What is reversal therapy?, Effect of reversal therapy
7	Risk Factor Modification	Risk factor modifications better late than never, Cholesterol in the elderly, good and bad cholesterol, modifiable risk factors, Strategies for risk management, <i>Pathyapathya</i> in view of risk factors.
8	Diagnostics	Laboratory investigations and their clinical variation in the elderly, Diagnostic techniques like Angiography, Holter Monitoring, Echocardiography, Electrocardiography, their application and clinical variations in the elderly
9	Treatment modalities available and issues in their applicability in elderly	<i>Samprapti Vighatan</i> of <i>Hridroga</i> , <i>Samanya</i> and <i>Visishtha Chikitsa</i> of <i>Hridroga</i> , <i>Chikitsa</i> of <i>Hrichhul</i> , Treatment of IHD and hypertension, Revascularization procedures etc
10	Preventive Cardiology, Promotive Aspects for Healthy Heart	Prevention of heart attack, Paradigm shift from curative to preventive and promotive cardiology, pharmacological and non-pharmacological preventive approaches
11	Life Style Modification and Dietary considerations	Life style advised in Ayurveda, Role of <i>Sadvritta</i> and <i>Sadachaaar</i> , clinical application of <i>yogic</i> practices and their limitation in the elderly, <i>Pathya-Apathya</i> in <i>Hridroga</i> , Do's and Don't s , calorie and cholesterol content of various Indian food items useful in the elderly
12	Referral requirements	All geriatric individuals with unstable anginas, impending CVA and progressive cardiac failures should be referred to specialized cardiac care centers/units for investigation, evaluation and management.

Endocrine & Metabolic Disorders in the Elderly

Unit	Subject	Course contents
1	Introduction	Geriatrics in reference to endocrine and metabolic disorders in conventional system of medicine. Concept of metabolic disorders in <i>Ayurveda</i> .
2	Prevalence of endocrine and metabolic disorders in the elderly	General prevalence. Prevalence as per respective disease.
3	Physiological endocrine and metabolic changes in the elderly	*Age related physiological changes- At the level of Fat and water, Endocrine gland, Gastro intestinal level and at the level of Central nervous system. *Effect of physiological changes in body *Consequences of disease in relation to physiological changes. <i>Ayurvedic</i> view on age related physiological changes.
4	How elderly differ from adult population in general	The differences should be in terms of – Atypical disease presentation, decreased physiological reserve i.e. homeostenosis, common presentation of disease, adverse consequences of disease and their treatment along with dosing schedule in the elderly.
5	How the elderly presents endocrine and metabolic disorders	Physiological reserve starts decline in third decade; it is gradual and progressive, although the rate and extent of decline varies. Hence the presentations of metabolic and endocrine disorders are also varied in the elderly people. It may be presented as- Detected in the middle age live through the elderly, detected for the first time in the geriatric age group and impaired functions of endocrine tolerance de novo in the elderly.

6	The clinical presentation of endocrine and metabolic disorders in the elderly	Clinical presentation of endocrine and metabolic disorders in conventional medicine, Atypical presentation, classical presentation with other common symptoms, presented with complications and coexisting disease.presentation of metabolic disorders in <i>Ayurveda</i> , in relation to <i>Agni</i> , <i>Ama</i> , <i>Prakrti</i> and <i>Jaravastha</i> ,
7	Common endocrine and metabolic disorders in the elderly	In contemporary system of medicine –Diabetes mellitus, hypothyroidism, hyperthyroidism, hyperparathyroidism, obesity and hyperlipidemia, thermoregulatory disorders, disorders of adrenal cortex, electrolyte imbalance etc. In Ayurvedic system of medicine- It includes various disorders at the level of GIT as well as systemic too.
8	Etiology & clinical presentation of common endocrine & metabolic disorders	Common etiology and pathogenesis of endocrine & metabolic disorders in Ayurvedic and conventional system of medicine. Clinical presentation of every disease in the elderly.
9	Complications and prognosis of endocrine and metabolic disorders	Complications and prognosis of each disorder in the current trends. Complications and prognosis as described in <i>Ayurveda</i> .
10	Diagnostic procedure of endocrine and metabolic disorders	Clinical diagnosis- it includes common symptoms and signs of every diseases. Laboratory diagnosis- it includes various laboratory tests for the support of clinical diagnosis, relevant tests for complications, X-rays and other imaging techniques, their indications and contraindications.
11	The management of metabolic and endocrine disorders	In Ayurvedic system of medicine: Diabetes mellitus- <i>Nisa</i> , <i>Amalaki</i> , <i>Silajatu</i> , <i>Karvellaka</i> , <i>Vasantakusamakara rasa</i> , <i>Pramehantaka rasa</i> , <i>Siva gutika</i> , <i>Trivanga bhasma</i> etc. Hypothyroidism- <i>Kanchanara guggulu</i> , <i>Arogyavardhani vati</i> ,

		<p><i>Jalakumbhi panchanga antradhuma bhasma, Asvagandha churna, Pravala bhasma etc. Hyperthyroidism- Pravala pisti, Samirapannaga rasa, Kanchanara guggulu,etc. Obesity & Hyperlipidemia- Triphala guggulu, Medohara guggulu, Rajata bhasma, Amalaki rasayana, Pippali rasayana, Panachakola churna, etc. Hypothermia- Usnopacara Hyperthermia- Sitopachara. Etc. In Conventional system of medicine: –Pharmacological- various drugs for variety of endocrine & metabolic disorders, Non pharmacological approach- Education, social support, exercise, meditative asana, Yogic practices etc.</i></p>
12	<p>The problem with conventional drugs and place of Ayurvedic drugs in the management of endocrine and metabolic disorders</p>	<p>Problem with conventional drugs: Drug resistance, drug intolerance, hypersensitivity, side effects and formation of antagonist during the treatment. Ayurvedic drugs not only have <i>Lekhaniya</i> and <i>Brimhaniya</i> property to subside or cure the metabolic and endocrine disorders but also have <i>Rasayana, ojovardhaka, jivaniya</i> and <i>balya</i> properties. By virtue of these properties Ayurvedic drugs alone or in combination with modern medicine, have capacity to reduce the conventional drugs requirement, prevent or delay the long term complications, and maintain over all health in the elderly.</p>
13	<p>General guide lines for ongoing medical care in the elderly</p>	<p>To asses’ therapeutic response, side effect, toxic effect etc. in relation to respective diseases.</p>

Diabetes Mellitus vis-a-vis *Madhumeha* in the Elderly

Unit	Subject	Course contents
1	General introduction & prevalence of diabetes mellitus	Diabetes mellitus in Ayurveda & conventional medicine, Prevalence of DM in Indian and global scenario.
2	The prevalence of diabetes mellitus in the elderly	In developed countries, In developing and newly industrialized nations.
3	How the elderly diabetics differ from adult population	Elderly diabetics differ from adult population in various ways, such as: disease presentation is atypical, decreased physiological reserve (homeostenosis), Many diseases are common in elderly than younger patients, symptoms of disease in the elderly people are often due to multiple causes. The elderly patients are more likely to suffer from the adverse consequences of disease and their treatment. The elderly patients require only optimal treatment.
4	How diabetes mellitus presents in the elderly	Reality orientation, self awareness and self knowledge, self esteem and self acceptance, ability to exercise voluntary control over behaviour, ability to form affectionate relationship, pursuance of productive and goal directed activity.
5	The clinical presentation of diabetes in elderly	Clinical presentation of DM in contemporary medicine, It presents in the following ways- atypical presentation, classical presentation with other common symptoms, presented with serious complications, presented with coexisting diseases. clinical presentation of DM in Ayurveda. Role of <i>Deha Prakriti</i> in progression and prognosis of disease and response to treatment.

6	The diagnostic criteria of diabetes mellitus in elderly diabetics	In asymptomatic undiagnosed individuals. In asymptomatic individuals (as per American Diabetic Association-2000):
7	The other laboratory tests in elderly diabetics	In symptomatic individual following laboratory tests are routinely performed to assess the therapeutic response and other associated complications, viz- Blood for - TLC, DLC, ESR, Hb%, Urine for – routine and microscopic examination, Blood sugar for- fasting and PP, Glycated Hb (HbA1c), (it is <7% in normal individual), Blood urea, Serum creatinine, Lipid profile, Serum cholesterol, CRP, NCV etc
8	The common assessments in the elderly diabetics	Functional assessment including cognitive testing and screening for depression, vascular risk assessment with advice on life style modification and vascular prophylaxis, metabolic targeting-individualized, consider specific intervention for diabetes related disabilities, assess suitability for self care vs career assistance
9	The plan of management in the elderly diabetics	Conventional approach: The cornerstone of the treatment in the elderly diabetics is similar to the other age groups, which consist of- 1.Exercise, individualized.diet and exercise, 2.Diet, exercise and oral hypoglycemic drugs, 3.Insulin-subcutaneous injection.Ayurvedic Approach: <i>Nidana parivarjana</i> - avoidance of etiological factors, <i>Ahara</i> - specific dietary regimen, <i>Vihara</i> - exercise and meditative <i>Asanas</i> & life style management, <i>Aushadhi</i> - It consists of- Herbal drugs: viz- <i>Vijayasara</i> , <i>Nisa</i> , <i>Amalaki</i> , <i>Mamajjaka</i> , <i>Jambu</i> , <i>Bilva-patra</i> , <i>Teja- patra</i> , <i>Guduchi</i> etc. Mineral drugs: viz- <i>Silajatu</i> , <i>Sivagutika</i> , <i>Chandraprabhavati</i> etc. Herbo-mineral preparations: including classical and new formulations, Yoga therapy: under care of trained yoga therapist.

		Geriatric Pancakarma: viz- <i>Abhyanga, Svedana, Pinda sveda, Kayaseka, Sirodhara Shirobasti</i> etc.
10	The guidelines for ongoing medical care in the elderly diabetics	Self monitoring of blood glucose, HbA1c testing (2-4 times per year), Patient education in diabetes management (annual), Medical nutrition therapy and education (annual), Eye examination (annual), Foot examination (1-2 times /year by physician, daily by the patient), Screening for diabetic nephropathy (annual), Blood pressure measurement (regular), Lipid profile (annual)
11	The problem with conventional drugs and place of Ayurvedic drugs in the management of elderly diabetics	<p>1. Problem with conventional drugs: Drug resistance, drug intolerance, fear of hypo and hyperglycemic episodes with sulphonylureas, hypersensitivity and antagonist formation with Insulin.</p> <p>2. Ayurvedic drugs not only have <i>Pramehaghna</i> property but also have <i>Rasayana, Ojovardhaka, Jivaniya</i> and <i>Balya</i> properties. By virtue of these properties Ayurvedic drugs alone or in combination with modern medicines have capacity to reduce the Insulin as well as oral hypoglycemic drug requirement, prevent or delay the long term complications, and maintain over all health in the elderly diabetics.</p>
12	The complications in the elderly diabetics	Acute complications- Diabetic ketoacidosis, Hyperosmolar coma. Chronic complications- Retinopathy- 25%, Neuropathy- proximal motor neuropathy, Autonomic neuropathy, Diabetic foot syndrome, Macro vascular diseases- CVD, PVD, CVA, Nephropathy etc. Management of diabetic complications.

Respiratory Diseases in the Elderly

Unit	Subject	Course contents
1	Introduction	Geriatrics in reference to cardio-respiratory function, demography, epidemiology, current status of care.
2	Anatomical and Physiological considerations	Senile structural and functional changes in respiratory system.
3	Senile Respiratory Morbidities	Respiratory Function Tests and Vital capacity, Common respiratory diseases of the elderly viz. Infections, Tuberculosis, Interstitial fibrosis, COPD, Asthma in old age, Senile bronchitis, Bronchiectasis, Malignancies.
4	COPD and Asthma (<i>Tamaka</i>) in the elderly	Clinical presentation, diagnosis and investigations, treatment modalities in conventional as well as Ayurvedic system of medicine.
5	Pulmonary TB in elderly (<i>Yakshma</i>)	Clinical presentation, How it differs from adults, choice of ATT drugs for the elderly, dosage form and side effects monitoring. Adjunct Ayurvedic therapy with <i>Rasayanas</i> .
6	Respiratory infections	Taxonomy of respiratory infections in elderly, Clinical presentation of upper and lower respiratory tract infection, How it differs from adults, Chronic senile Bronchitis, bronchiectasis, pneumonias, Treatment of infections, How to prevent respiratory infections, Choice of conventional drug therapy and Ayurvedic treatment, Monitoring safety of the therapies.
7	Cancer of Respiratory tract	What are the prevalent malignancies of Respiratory tract in old age, What is the clinical presentation, how clinical presentation, cause and prognosis differs in elderly patients from adults.

8	Iatrogenic diseases	Therapeutic modalities, Respiratory disorders caused by chronic consumption of drugs, inhalants, smoking etc.
9	Special diagnostic procedures	Special diagnostic procedures used in Respiratory diseases their application in elderly patients, indications contraindications, uses and applications.
10	Ayurvedic Medications	<p>Bronchial Asthma – <i>Haridra khanda, Sirishadi-Kwath, Swasa Kuthar Rasa, Kanakasava.</i></p> <p>Chronic Infection – <i>Shigru Guggulu, Amrita, Madhuyasti, Pippali etc.</i></p> <p>Antitussives – <i>Vyoshadi, Lavangadi, Eladi Vati etc.</i></p> <p>Expectorants – <i>Sitopaladi, Byaghri Haritiki etc.</i></p> <p>Rasayana – <i>Chyavanaprasha, Pippali Rasayana etc.</i></p>
11	Non-Pharmacological care	Preventive care of adverse air-pollutants and inhalants, Correct breathing and breathing exercises, Simplified <i>Pranayamas</i> , Practices viz. <i>Anuloma-Viloma, Bhramari, Bhastrika</i> etc.

Gastro-Intestinal Diseases of the old age and their care (*Agni Evam Mahastrotas Vikara in Jara-avastha*)

Unit	Topic/Subject	Course contents
1	Agni & Kinds of Agni according to Ayurveda.	Brief introduction to the theory of Agni in Ayurveda, definition, scope and importance of Agni in <i>Deha</i> (body)- <i>Jatharagni</i> (digestive fire), seven types of <i>Dhatvagni</i> , their locations; <i>Panchabhutagni</i> and their locations.
2	Agni, its relation with Deha Prakriti	<i>Jatharagni</i> (digestive fire) and its function, importance of <i>Samagni</i> in maintaining <i>Svasthya</i> (health), <i>Ayu</i> (age) and strength in <i>Jara-avastha</i> .
3	Vikrita Agni and its significance	Theory of <i>Tikshna</i> , <i>Manda</i> and <i>Vishmagni</i> and its relation with <i>Paittika</i> , <i>Kaphaj</i> and <i>Vata</i> predominance constitutions. Influence of <i>Vata</i> , <i>Pitta</i> and <i>kapha</i> on <i>Deha Agni</i> .
4	Sapta - Dhatvagni, their location, physiological and pathological functions of Dhatvagni.	Theory of <i>Sapta - Dhatvagni</i> i.e., <i>Rasa - Rakta - Mamsa - Meda - Asthi - Majja</i> and <i>Sukra</i> , physiological function of individual <i>Dhatus</i> and their importance to maintain healthy state, <i>Saptadhatvagni</i> & pathogenesis.
5	Panchabhutagni their location in Deha (body) and Jara-avastha	Concept of <i>Panchabhutagni</i> , their significance in the maintenance of <i>Dosa - Vata, Pitta</i> and <i>Kapha</i> , Bio-chemical nature of <i>Panchamahabhutagni</i> .
6	Mahasrotasa in Ayurveda	Theory of <i>Mahasrotasa</i> in Ayurveda, concept of <i>Amasaya</i> , <i>Grahani</i> , <i>Pakvasaya</i> in Ayurveda, Significance of <i>Amasaya</i> , <i>Grahani</i> and <i>Pakvasaya</i> in digestion of food and absorption of nutrition.
7	Disorders of Mahasrotasa (GIT) in Jara avastha and Management.	Disorders of <i>Amasaya - Mandagni</i> , <i>Amlapitta</i> , <i>Udavarta</i> , <i>Udar sula</i> , <i>Amasaya Vrana</i> in aged persons and their management. <i>Atisara</i> , <i>Grahani</i> ,

		<i>Pravahika</i> , IBS and IBD in aged persons and their management. <i>Vibandha</i> and its management, <i>Arsa-Sushkarsa</i> and <i>Raktarsa</i> in aged person and their treatment.
8	Influence of Aharadravya on Deha-Agni	Concept of <i>Ahara</i> and its importance in maintaining healthy state of life in <i>Jara-avastha</i> . <i>Gurvadi Bhautika Guna</i> based <i>Ahara</i> and its significance. Concept of <i>Shadrassa Ahara</i> and its significance. Properties of important <i>Ahara Dravya</i> and their usefulness in elderly people.
9	Identification of Aushadha dravyas (drug substances) and their usefulness in elderly persons, practical demonstrations	<p><i>Dipaniya</i> drugs - <i>Pippali, Maricha, Chitraka, Hingu</i> etc.</p> <p><i>Pachaniya</i> drugs - <i>Chitraka, Mustaka, Dhanyaka</i></p> <p><i>Anulomaniya</i> - <i>Haritaki, Sunthi</i></p> <p><i>Virechana</i> - <i>Trivrita, Tiphala, Aragvadha, Eranda.</i></p> <p><i>Arsoghna</i> - <i>Kutaja, Bilva, Haritaki</i></p>

Musculoskeletal & Joint Diseases in the Elderly

Unit	Subject	Course contents
1	Issues and concerns in Musculo skeletal diseases in elderly	Concept of musculoskeletal diseases in Ayurveda, current prevalence of the joint diseases in elderly, diagnostic uncertainty due to atypical manifestation, multiple medication causing drug interaction and superimposition of other co morbid conditions
2	Common Musculoskeletal diseases in elderly	Articular diseases like <i>Sandhivata</i> (Osteoarthritis), <i>Amavata</i> (Rheumatoid arthritis), <i>Vatarakta</i> (Gout), <i>Asthikshyaya</i> (Osteoporosis and osteopenia), Systemic Lupus Erythematosus (SLE), Periarticular diseases like Polymyalgia rheumatica (PMR)., Bursitis, Tendinitis etc.
3	Causes of various joint disorders and their Clinical presentations	Common causes of joint pain and its pathogenesis as per the Ayurvedic concept and current trends, epidemiology of each disease, clinical presentation of each of such diseases, the difference in the manifestation and clinical presentation in elderly in comparison to the younger patients, location and involvement of joints in each disease, characteristic features of pain in each disease
4	Complications, chronicity, prognosis of musculoskeletal disorders	Complications of each disease as per the modern medicine, <i>Upadrava</i> as described in Ayurveda, prognosis of the diseases in view of modern medicine and Ayurveda
5	Clinical diagnosis and diagnostic problems in the elderly	Modes of diagnosis for various musculoskeletal diseases, General examination, elements of joint examination (inspection, palpation, pattern of joint involvement) problems of diagnosis in elderly, limitation in clinical diagnosis, diagnostic algorithm.

6	Laboratory diagnosis, ancillary tests and its limitations	Various laboratory tests for the support or confirmation of diagnosis, synovial fluid analysis for differentiation of various types of joint diseases, imaging studies like plain radiography and special imaging studies, indication for imaging studies and interpretations.
7	Errors in diagnosis	Failure to differentiate periarticular disease from other causes of joint pain, failure to consider the diagnosis of septic arthritis in a patient with chronic arthritis.
8	Approach to treatment, non pharmacological approaches, pharmacological approaches	Available treatment modalities in modern medicine including surgical approach, their limitations in view of side effects, non pharmacological approaches like patient education, social support, exercise, physical modalities, joint protection, pharmacological approach like use of NSAIDs, glucocorticoids, DMARDs, ACTH etc. and their indication, limitation of their use in view of major side effects in the elderly
9	Ayurvedic principle of treatment, Panchakarma procedures and <i>Shamana</i> therapies	Introduction to Ayurvedic treatment modalities for musculoskeletal disorders, uniqueness of Ayurvedic principles of treatment in comparison to modern medicine treatment, preventive approach by life style modification as per Ayurvedic principle, Selective Panchakarma procedures, modification of the procedures to suit the need of the elderly, their indication and contraindications, <i>Shamana</i> therapies, single and compound formulations, choice of drugs as per the need of the elderly, limitation in choosing the drugs.
10	Referral requirement	A geriatrician will ordinarily manage with patients in geriatric care services. However, some patients with gross deformities and situations warranting surgical interventions and physical medicine aids will have to be referred to specialized Rheumatology Care Clinics, Physiotherapists and Orthopedic surgeons.

Urinary Diseases and other Surgical Problems of the Elderly

Unit	Subject	Course contents
1	Senile changes in Urogenital system and its impact on other organs	Senile changes in urogenital system and its impact on cardiovascular system, respiratory system, gastrointestinal system, endocrine system, Nervous system, haemopoietic system etc.
2	Diseases of Urogenital system in elderly people	Diseases of kidney, ureter, urinary bladder, urethra, prostate, seminal vesicles, testes, penis etc.
3	Clinical presentation of urogenital diseases and complications in elderly people	Clinical presentation of diseases like urinary tract infection, renal failure, obstructive uropathies, bladder atony, cystitis, benign prostatic hyperplasia, bladder outlet obstruction, neoplasia, balanitis, leukoplakia etc., <i>Udavarta</i> , <i>Mutraghata</i> , <i>Mutrakrichhra</i> , <i>Asmari</i> etc.
4	Diagnostic techniques and measures in geriatric health care	Application of various diagnostic techniques like cystoscopy, uroflwometry, ultrasonography etc. in diagnosis of various urinary disorders in elderly patients
5	Available therapeutic modalities and supplementation by Ayurvedic therapeutic measures	Therapeutic modalities for treatment of urinary disorders and use of Ayurvedic therapies in their management.
6	Therapeutic measures	Medicines and surgical procedures along with <i>Snehana</i> , <i>Swedana</i> , <i>Vasti</i> , <i>Rakta Mokshana</i> , <i>Ksharakarma</i> etc. for curative effects.
7	Preventive measures	Preventive measures achieved by <i>Ahara</i> , <i>Vihara</i> , personal hygiene, purificatory procedures like <i>Snehana</i> , <i>Swedana</i> , <i>Vasti</i> therapy etc

8	Precautions, Complications and limitation of procedures	Precautions, complications and limitations of treatment procedures in geriatric care.
9	Practical demonstration	Demonstration of diagnostic techniques, therapies to be given, patient care and wound care

Ano-Rectal Disorders of Elderly

Unit	Subject	Course contents
1	Senile changes in ano-rectal region and its impact on health	Senile changes in perineum, ano-rectal region and its impact on health like-lower GI motility support of rectum and feacal transit time.
2	Diseases of ano-rectal area with special reference to elderly people	Diseases of ano-rectal region like haemorrhoids, fistula in ano, anal sinus, neoplasia, fissure in ano, anorectal abscesses, rectal prolapse, anal stricture, proctitis, pruritis ani and chronic constipation etc.
3	Clinical presentation of ano-rectal diseases and complications in elderly people	Clinical presentation of diseases like perianal pain, per rectal bleeding, perianal pus discharge, feeling of mass in and outside of anal canal, constipation etc. and complications like anaemia, rectal prolapse, proctitis, bleeding, stricture formation etc.
4	Diagnostic measures	Application of various diagnostic technique like proctoscopy, anal manometry, sigmoidoscopy, fistulogram, CT scan, MRI, Ultrasonography etc. in diagnosis of various ano-rectal diseases in elderly people
5	Available therapeutic modalities and supplementation by Ayurvedic therapeutic methods	Therapeutic modalities for treatment of diseases and use of Ayurvedic therapies like <i>vasti</i> therapy, <i>ksharsutra</i> therapy, <i>virechan</i> , <i>awagaha sweda</i> , etc. in their management.
6	Therapeutic measures	Medicines and surgical procedures along with <i>Snehan</i> , <i>swedana</i> , <i>vasti</i> therapy, <i>kshar karma</i> , <i>ksharsutra</i> etc. for curative effects
7	Preventive measures	Preventive measures achieved by <i>ahara</i> , <i>vihara</i> , purificatory procedures like <i>Snehan</i> , <i>swedana</i> , <i>vasti</i> therapy etc

8	Precautions, Complications and limitations of treatment	Precautions, complications and limitations of treatment procedures in geriatric care
9	Practical demonstration	Demonstration of diagnostic techniques and demonstration of therapies to be given

Wound management in the Elderly

Unit	Subject	Course contents
1	Aetiopathogenesis of wound in elderly people, incidence and factors responsible for wound healing	Aetiopathogenesis of wound in elderly incidence, effect of aging on wound healing, common factors and diseases of elderly age related with wound healing and senile nutritional status affecting the wound healing
2	Common wounds in elderly people	Common wounds of elderly people like diabetic wound, vascular ulcers, tropic ulcers, gangrene, filarial ulcers, neoplastic ulcers, Burgers disease, Bony ulcers, burns, <i>dusta vrana</i> etc.
3	Clinical presentation and complications of wounds in elderly people	Clinical presentation of wounds like pressure ulcers, chronic non healing ulcers, diabetic foot ulcer, vascular ulcers and infected wounds.
4	Diagnostic measures	Application of various diagnostic technique like haematological, biochemical, bacteriological, histopathological, peripheral Doppler, x-ray etc in diagnosis of various wounds in elderly patients
5	Available therapeutic modalities, principles and scope of wound management by Ayurvedic therapeutic measures	Therapeutic modalities for treatment of wounds and use of Ayurvedic therapies like <i>vrana shodhana</i> , <i>vrana ropana</i> , <i>vrana bandhana</i> , <i>agnikarma</i> , <i>raktavishravana</i> in their management.
6	Therapeutic measures	Medicines and surgical procedures along with <i>Snehan</i> , <i>swedana</i> , <i>vasti</i> therapy, <i>vrana shodhana</i> , <i>vrana ropana</i> , <i>vrana bandhana</i> , <i>agnikarma</i> , <i>raktavishravana</i> etc. for curative effects
7	Preventive measures	Preventive measures achieved by <i>ahara</i> , <i>vihara</i> , purificatory procedures like <i>Snehan</i> , <i>swedana</i> , <i>vasti</i> therapy, <i>rasayana</i> therapy etc.

8	Precautions, Complications and limitations of therapies	Precautions, complications and limitations of treatment procedures in geriatric health care
9	Practical demonstration	Demonstrations of wound care techniques and demonstrations of therapies to be given.

Adjuvant therapy for Cancer

Unit	Subject	Course contents
1	Senile body changes and concept of Neoplasia in elderly	Senile body changes associated with neoplasia, concept of neoplasia and <i>Arbuda</i> in Ayurveda
2	Diagnostic problems and measures to be adopted for diagnosis of Neoplasia in elderly	Modes of diagnosis for various organ systems and problems of diagnosis in elderly people, special diagnostic tools and procedures for elderly people with special reference to screening for neoplasia
3	Available treatment modalities and supplementation by Ayurvedic therapeutic measures	Treatment modalities and their limitations, Ayurvedic therapies and their limitations, <i>Sanshaman</i> and <i>Samshodhana Chikitsa</i> in patients of neoplasia.
4	Therapeutic measures for Neoplasia in elderly	Limitations of surgical treatment in elderly people, Indications and contraindications of treatment modalities to be adopted for treatment of cancer in geriatric health care, Role of Para surgical procedures in the management of Neoplasia.
5	Preventive measures for Neoplasia in elderly	Preventive measures to be adopted for Neoplasia like <i>Ahara</i> , <i>Vihara</i> , purificatory procedures and Para surgical procedures.
6	Precautions, Complications and limitations of procedures to be	Precautions, complications and limitations of treatment procedures to be used in geriatric neoplasia treatment
7	Adjuvant Ayurvedic therapy for Neoplastic diseases	Adjuvant Ayurvedic therapy for neoplastic diseases viz. <i>Shothahara</i> , immunomodulator <i>Rasayanas</i> viz. <i>Amalaki</i> , <i>Ashwagandha</i> , <i>Bhallataka</i> etc.

8	Use of Ayurvedic procedures and drugs minimizing the adverse effects of Chemotherapy and Radiotherapy	Application of Ayurvedic procedures and herbal drugs like <i>Ashwagndha</i> , <i>Amalaki</i> , <i>Guduchi</i> , <i>Yastimadhu</i> , <i>Bhallataka</i> etc._minimizing the adverse effects of Chemotherapy and Radiotherapy.
9	Drugs used in the management of Radiation Proctitis, Cystitis etc.	Description and application of drugs used in the management of Radiation Proctitis, colitis etc.
10	Practical demonstrations	Demonstration of patient care and wound care, Demonstration of therapies.

Sense organ diseases of the old age Eyes, Ears and Skin (*Pannchendriya Vikar*)

Unit	Subject	Course contents
1	Issues and concerns in Panchendriya vikara in elderly	Concept of sense perception in Ayurveda, role of <i>Asatmyendriyarthasamyoga</i> in causing sense organ diseases, concept of <i>indriya pradosaj vikara</i> , predominant senses affected in elderly, Anatomical and physiological changes in sense organs as per the advancement of age, typical senile changes in sense organs.
2	Common sense organ diseases in elderly, Hearing impairment, visual impairment, dermatologic diseases	Hearing impairment, visual impairment, cataract, age related macular degeneration, primary open angle glaucoma, retinopathies as a complication of other diseases, dermatologic diseases, precancerous and malignant conditions, infectious conditions, dermatitis, various drug reactions in skin, other lesions in skin, diseases described in Ayurveda.
3	Causes of the various sense organ disorders and their Clinical presentations	Causes of sense organ diseases and their pathogenesis as per the Ayurvedic concept and current trends, specific causes in elderly, clinical presentations of each diseases, the difference in the manifestation and clinical presentation in elderly in comparison to the younger patients, characteristic feature of each disease.
4	Complications, chronicity, prognosis of sense organ disorders	Complications of each disease as per the modern medicine, <i>Upadrava</i> as described in Ayurveda, prognosis of the diseases in view of modern medicine and Ayurveda.
5	Clinical Diagnosis and Diagnostic problems in elderly	Modes of diagnosis for various sense organ diseases, key history, physical examination of each sense organ, screening of hearing, vision, skin,

		problems of diagnosis in elderly, limitation in clinical diagnosis.
6	Laboratory diagnosis, ancillary tests and their limitations	Various laboratory tests for the support or confirmation of diagnosis, screening test for hearing loss such as Hearing Handicap Inventory in Elderly-Short version (HHIE-S), audioscope, audiometry, imaging techniques, general vision screening, screening for glaucoma, tonometry, fundoscopy etc. laboratory tests for infectious skin diseases, limitations of lab procedures.
7	Errors in diagnosis	Failure to recognize the sign and symptoms of hearing loss by primary care practitioners, attribution of visual impairment to normal ageing, negligence by the clinicians in asking about visual impairment in elderly as a routine practice
8	Approach to treatment, Non pharmacological approaches, pharmacological approaches	Available treatment modalities in modern medicine including surgical approach, their limitations in view of side effects, non pharmacological approaches like family approach, patient education, social support, aural rehabilitation, use of hearing aids, drug treatments, limitation of use in view of side effects in elderly, preventive approach for cataract, laser therapy for AMD, surgical approach in cataract, glaucoma.
9	Ayurvedic principle of treatment, Panchakarma procedures and Shamana therapies	Introduction to Ayurvedic treatment modalities for sense organ disorders, Uniqueness of Ayurvedic principles of treatment in comparison to modern medicine treatment, preventive approach by life style modification as per Ayurvedic principle, Selective <i>kalpas</i> like <i>Karna Purana</i> for hearing loss, <i>Tarpan</i> , <i>Putapaka</i> , <i>Aschyotana</i> , <i>Anjana</i> etc. for eye diseases, modification of the procedures to suit the need of the elderly, their indication and

		contraindications, <i>Shamana</i> therapies, single and compound preparations, choice of drugs as per the need of the elderly, limitation in choosing the drugs.
10	Precautions, complications and limitation of procedures, Referral requirements	Precautions, complications and limitations of procedures in geriatric care as a whole, referral requirement and timely judgement in case of sense organ diseases.

Geriatric Women Health Care

Unit	Subject	Course contents
1	Anatomico-physiological changes in elderly women	Senile changes in the elderly women with special reference to reproductive system, hormonal changes related with pre-menopausal and menopausal period. Patho-physiology of menopause, reference of menopause (<i>Rajas, Artava</i>) in classical Ayurvedic texts.
2	Specific diseases in elderly women	Specific diseases of elderly women like post menopausal syndrome, osteoporosis, senile vaginitis, hypertension, diabetes mellitus, senile pyometra, vaginal bleeding etc. and psychological problems of elderly women.
3	Understanding of aetiopathogenesis and presentation of diseases in elderly women	Specific etiology, pathogenesis and different modes of clinical presentation, differential diagnosis of Post-menopausal syndrome, osteoporosis, senile vaginitis, vaginal bleeding, menorrhagia, metrorrhagia etc, psychological problems, diabetes mellitus and hypertension in elderly women.
4	Diagnostic methodology measures and techniques for diseases of elderly women	Specific diagnostic measures, tools and techniques to be adopted for diagnosis of specific disease conditions, and for their differential diagnosis, their description and methodology in elderly women.
5	Available treatment modalities for the treatment of diseases of elderly women	Presently available treatment modalities and practice of medical and surgical procedures for the treatment of elderly women including HRT, their indications, side effects along with limitations of their use.
6	Ayurvedic Treatment modalities in the care of disease of elderly women	<i>Samsodhana</i> and <i>Samshamana Chikitsa</i> of Ayurveda in care of elderly women and their diseases, <i>Pichu, Uttaravasti, Vasti, Abhyanga, Shirodara</i> , and other panchakarma procedures. Phytoestrogens and micronutrients and Ayurvedic herbal medicines and their role, immunomodulation, <i>Rasayanas</i> and their role in care of elderly women.



Further information can be obtained from

Director

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